

PROCEEDINGS OF LEARNED SOCIETIES.

LINNÆAN SOCIETY.

June 16.—The Lord Bishop of Norwich, President, in the Chair.

Read, "Description of a new species of the Coleopterous genus *Cerapterus*, from South America." By J. O. Westwood, Esq., F.L.S.

In the present paper the author enumerates eight species of this interesting genus of the family of *Paussidæ*, which he distributes into six subgenera. The following are the characters of the new species:—

1. *C. Horsfieldii*, piceus; thorace anticè emarginato, elytris maculâ apicali flavescente haud rotundatâ literam y quodammodò simulante, palporum labialium articulo ultimo securiformi.
 2. *C. quadrinotatus*, piceo-niger, nitidissimus; thorace (anticè viso) subemarginato, maculis duabus magnis ovalibus prope scutellum, alterisque duabus apicem versus majoribus anticè et posticè lobatis rufo-fulvis.
Long. corp. lin. lat. lin.
 3. *C. piceus*, nitidus; antennis pedibusque rufo-piceis, punctis irregularibus minutissimis.
 4. *C. brasiliensis*, fulvo-rufescens; oculis albidis tenuissimè punctatis, vertice depresso, thorace intra angulos posticos utrinque foveolato.
Long. corp. lin. lat. lin.
- This remarkable species was discovered by Mr. Miers in the vicinity of Rio de Janeiro, and a drawing of the insect accompanies the present paper. Mr. Westwood regards it as the type of a new subgenus, which he names *Homopterus*.
5. *C. Westermanni*, rufo-piceus, haud nitidus; elytris nigris posticè cruce rufescente notatis basi bicostatis discoque longitudinalitèr subimpressis, apice rufescente.
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Read also the conclusion of a paper, entitled "Arrangement and Definition of the Genera of Ferns, founded upon their venation, with examples of the species, and observations on the affinities of each genus." By Mr. John Smith, A.L.S.

The principles of the author's arrangement are similar to those proposed by Presl in his *Tentamen Pteridographiæ*, published at Prague in 1836, in which the venation of the frond (a character the importance of which was first pointed out by Mr. Brown) is adopted as the basis of generic division. It is but justice, however, to Mr. Smith, to state that his arrangement was completed before the work of Professor Presl had reached this country, and the coincidence of their views affords presumptive evidence in favour of the accuracy of the principles upon which their distribution of the species is founded. This extensive family, or rather class, was divided by Mr. Brown into four very natural subfamilies. It is only with the first of these (*Polyodiaceæ*) that Mr. Smith has more particularly occupied himself in the present paper. The following are the names and characters of the tribes into which he has distributed the *Polyodiaceæ*.

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Subfam. I. POLYPODIACEÆ, *R. Br.*

Sporangia globose, or oval, transparent, unilocular, pedicellate, or rarely sessile, opening transversely by the elastic property of a vertical, rarely oblique, articulated ring.

Tribe I. POLYPODIEÆ. Sori punctiform or elongated, destitute of a special indusium.

Examples.—Polypodium, *Sw.* Grammitis, *Sw.* Hemionitis, *L.*

Tribe II. ACROSTICHIEÆ. Sori amorphous, destitute of a special indusium. Example.—Acrostichum, *L.*

Tribe III. PTERIDEÆ. Sori punctiform, or elongated transversely. Indusium lateral, attached exteriorly.

Examples.—Pteris, *L.* Adiantum, *L.*

Tribe IV. ASPLENIEÆ. Sori elongated, oblique. Indusium lateral, linear. Examples.—Asplenium, *L.* Diplazium, *Sw.*

Tribe V. ASPIDIEÆ. Sori punctiform, intramarginal. Indusium orbicular and central, or reniform and lateral, and attached interiorly.

Examples.—Aspidium, *Sw.* Nephrodium, *Mich. R. Br.*

Tribe VI. DICKSONIEÆ. Sori marginal. Indusium lateral, attached interiorly, its free margin conniving with the indusiform margin of the frond, forming a calyciform bilabiate cyst.

Examples.—Lindsæa, *Dry.* Davallia, *Sm.* Dicksonia, *L'Herit.* Trichomanes, *L.* Hymenophyllum, *Sm.*

Tribe VII. CYATHEÆ. Sori punctiform, intramarginal. Indusium calyciform, or wanting. Receptacle elevated.

Examples.—Cyathea, *Sm.* Hemitelia, *R. Br.* Alsophila, *R. Br.*

These tribes are again subdivided into minor groups, founded upon characters derived from the venation of the frond, the position of the sori, and the form of the indusium. *Notholæna* and *Ceratopteris* are referred to the first, *Ceterach* to the fourth, and *Onoclea* to the fifth tribes.

Nov. 3.—Mr. Forster, V.P., in the Chair.

Mr. William Taylor, F.L.S., exhibited a sample of the oil obtained from the fruit of *Madia sativa*, grown at Aspall Stoneham, near Ipswich.

Read, "A Note on the Bokhara Clover." By William Taylor, Esq., F.L.S.

Mr. Taylor obtained from Mr. Loudon a small parcel of seeds of the Bokhara Clover (*Melilotus arborea*), which was sown early in April, 1839. The plant proved to be biennial, and stood the winter well. On the 28th of April following, a part of the crop was cut down, the stems measuring 15 inches in height; and on the 28th of May, from the same piece of ground, a second crop was obtained, which had reached the height of 16 inches; a third on the 28th of June, 17 inches; a fourth in July, 16 inches; a fifth in August, 15 inches; and a sixth in September, measuring 14 inches. According to Mr. Taylor's calculation, the Bokhara Clover would yield from 20 to 30 tons of green herbage per acre, and from 2 to 3 tons of strong fibre, which appears capable of being manufactured into cordage.

The flowers are white and very fragrant, and the plant does not appear to differ specifically from the *Melilotus leucantha*, although regarded by DeCandolle as a distinct species.

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There was also read, "Descriptions of some new Insects collected in Assam, by William Griffith, Esq., Assistant Surgeon in the Madras Medical Establishment." By the Rev. F. W. Hope, M.A., F.R.S., and L.S.

This paper contains a further selection of new insects from Mr. Griffith's Assam collection in the possession of Mr. Solly, an account of part of which has been already noticed at p. 42, and has since appeared in the Society's Transactions. The descriptions are accompanied by coloured figures. The species described belong chiefly to the group of *Lucanidæ*, and are as follows:—

LUCANUS.

1. *L. Forsteri*.

Long. unc. 2, lin. 11; lat. elytr. lin. 10.

Nigro-piceus; mandibulis valdè exsertis internè multidentatis ad basin dente valido suprâ et infrâ armatis, apicibus furcatis.

This splendid species has been named in compliment to Edward Forster, Esq., Treas. and V.P.L.S.

2. *L. Rafflesii*.

Long. unc. 2, lin. 6; lat. lin. 8.

Niger, nitidus; mandibulis valdè exsertis ante apicem unidentatis, apicibus obtusis et obliquè truncatis.

This species is nearly related to *L. nepalensis*, but is of larger dimensions, and is extensively diffused over the eastern part of the Indian continent, occurring in Nepal, Bengal, and Assam.

3. *L. Spencei*.

Long. unc. 1, lin. 9; lat. lin. 6.

Ater; mandibulis exsertis basi robustis et unidentatis, apicibus furcatis.

4. *L. curvidens*.

Long. unc. 1, lin. 9; lat. lin. 6½.

Niger; mandibulis exsertis intùs dente curvato valido ferè ad basin posito.

5. *L. bulbosus*.

Long. unc. 1, lin. 6; lat. lin. 6.

Nigro-castaneus; mandibulis exsertis dentibus bulbosis armatis, apicibus acutis.

6. *L. astacoides*.

Long. unc. 1, lin. 3; lat. lin. 4.

Castaneus; mandibulis exsertis intùs ad basin denticulatis denticulis nigricantibus, apicibus acutis.

7. *L. foveatus*.

Long. unc. 2; lat. lin. 6.

Castaneus; mandibulis valdè exsertis, apicibus acutis, dente ferè medio fortiori, aliisque 4 æqualibus ante apicem positis.

8. *L. omissus*.

Long. unc. 1, lin. 9; lat. lin. 6.

Castaneus; mandibulis valdè exsertis, apicibus acutis, dentibus 2 nigris subbasalibus, aliisque 4 subapicalibus.

9. *L. serricollis*.

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Ater, politus; mandibulis parùm exsertis sinuatis et punctatis.

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10. *L. punctiger*.Long. lin. $9\frac{1}{2}$; lat. lin. 4.

Ater, corpore punctato nitido, thoracis marginibus externis serratis, elytris suturâ parùm elevatâ glabrâ insignitis, tibiis 4 posticis unidentatis.

CHEIROTONUS.

Corpus oblongo-ovatum, crassum. *Antennæ* 10-articulatæ. *Thorax* elytris anticè angustior, lateribus subrotundis, valdè serrulatis. *Elytra* thorace latiora. *Pedes* robusti, armati, anticè longiores; *tibiis* externè irregularitèr dentatis: *tarsis* elongatis, articulis apice spinâ brevi armatis, unguibus bidentatis. *Tibiæ* 4 *posticæ* seriebus spinarum irregularibus armatæ.

1. *C. MacLeayii*.

Long. lin. 23; lat. lin. 13.

Æneo-viridis; thorace lateribus externè serrulatis et varioloso-punctatis, sulco longitudinali in medio dorso fortitèr impresso, elytris nigro-æneis maculisque croceis insignitis.

This splendid insect, which forms the type of the above new genus, has been named in compliment to that learned and philosophic entomologist, Mr. W. S. MacLeay. It forms, along with *Eucheirus* of Kirby, and *Propomacrus* of Newman, a small natural family, which has been termed by the author *Eucheiridæ*, and regarded by him as related to the *Dynastidæ*, and constituting a link of connexion with the *Goliathidæ*.

LAMIA.

1. *L. Swainsoni*.

Long. unc. 1, lin. 4; lat. lin. 6.

Brunnea; thorace utrinque spinoso, dorso convexo in medio bulboso, elytris concoloribus albo-variegatis et ad basin nigro-tuberculatis.

This species, which has been named after Mr. Swainson, appears to constitute a subgenus related to *Euoplia*, described in the first part of the account of Assam Insects at p. 42.

MONACHAMUS.

1. *M. beryllinus*.

Long. lin. 8; lat. lin. 3.

Cæruleo-beryllinus; antennis griseis, thorace utrinque spinoso elytrisque nigro-maculatis.

STIBARA.

Corpus saperdæforme, crassum, robustum. *Caput* latum, antice ferè quadratum, posticè convexum. *Antennæ* corpore breviores, 11-articulatæ. *Thorax* robustus, nodosus, inermis. *Elytra* lata, thorace vix triplò longiora, apicibus abruptè truncatis, lateribus elevatis. *Pedes* femoribus incrassatis, tibiis robustis.

1. *S. tetraspilota*.Long. lin. 10; lat. lin. $3\frac{1}{2}$.

Aurantio-rubra; antennis oculisque nigris, thorace nodoso, elytris concoloribus, maculâ magnâ ovali nigrâ ad humeros positâ, apicibus nigris.

2. *S. trilineata*.

Long. lin. 9; lat. lin. 3.

Pallidè castanea; antennis albo-cinctis, thorace nodoso utrinque denticu-

10. *L. punctiger*.Long. lin. $9\frac{1}{2}$; lat. lin. 4.

Ater, corpore punctato nitido, thoracis marginibus externis serratis, elytris suturâ parùm elevatâ glabrâ insignitis, tibiis 4 posticis unidentatis.

CHEIROTONUS.

Corpus oblongo-ovatum, crassum. *Antennæ* 10-articulatæ. *Thorax* elytris anticè angustior, lateribus subrotundis, valdè serrulatis. *Elytra* thorace latiora. *Pedes* robusti, armati, anticè longiores; *tibiis* externè irregularitèr dentatis: *tarsis* elongatis, articulis apice spinâ brevi armatis, unguibus bidentatis. *Tibiæ* 4 *posticæ* seriebus spinarum irregularibus armatæ.

1. *C. MacLeayii*.

Long. lin. 23; lat. lin. 13.

Æneo-viridis; thorace lateribus externè serrulatis et varioloso-punctatis, sulco longitudinali in medio dorso fortitèr impresso, elytris nigro-æneis maculisque croceis insignitis.

This splendid insect, which forms the type of the above new genus, has been named in compliment to that learned and philosophic entomologist, Mr. W. S. MacLeay. It forms, along with *Eucheirus* of Kirby, and *Propomacrus* of Newman, a small natural family, which has been termed by the author *Eucheiridæ*, and regarded by him as related to the *Dynastidæ*, and constituting a link of connexion with the *Goliathidæ*.

LAMIA.

1. *L. Swainsoni*.

Long. unc. 1, lin. 4; lat. lin. 6.

Brunnea; thorace utrinque spinoso, dorso convexo in medio bulboso, elytris concoloribus albo-variegatis et ad basin nigro-tuberculatis.

This species, which has been named after Mr. Swainson, appears to constitute a subgenus related to *Euoplia*, described in the first part of the account of Assam Insects at p. 42.

MONACHAMUS.

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Cæruleo-beryllinus; antennis griseis, thorace utrinque spinoso elytrisque nigro-maculatis.

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A new genus belonging to the *Saperdiidæ*, to which family the *Lamia nigricornis* is also referrible, besides several other types of undescribed genera.

ZOOLOGICAL SOCIETY.

February 11, 1840.—The Rev. J. Barlow in the Chair.

A letter addressed to the Secretary by Sir John McNeill, and dated January 31, 1840, was read. It related to the two Persian Deer presented by that gentleman to the Society's menagerie, and contained an answer to some inquiries from the Secretary respecting them.

The letter states that this species of Deer is called by the Persians, Marâl, or Gevezu, or Goo Koohee, and is frequently noticed in their literature. It is found in all the wooded mountainous districts of Persia, but apparently does not occur in the central parts of the country.

The Persian Deer "rarely descend into the plains. During the summer they are found in the highest wooded parts of the mountains, and during the winter in the lower ravines near their bases, where they are frequently tracked in the snow.

"The horns of the adult male closely resemble those of the Red Deer of this country, insomuch that I doubt whether an unscientific observer could distinguish them, unless by the superior size of those of the Marâl."

Mr. Yarrell communicated to the meeting, on the part of R. H. Sweeting, Esq., some facts relating to a female Rorqual Whale (*Balænoptera boops* of authors), which was stranded near high-water-mark at Charmouth, Dorsetshire, early in the morning of Wednesday, February 5th, 1840.

The whole length was 44 feet.

Girth 21 —

Breadth of tail 9 —

Probable weight from twenty to twenty-five tons.

The jaws long and slender, but not sharp, the tip obtuse and convex; the upper jaw the shortest, and received, when the mouth is closed, within the lower jaw, which projected nine inches beyond it. The plates of whalebone amount to upwards of 250 on each side of the jaw; the palate and tongue of a pale pink colour; no warts about the lips. The back black; the under surface of the body white; the throat plicated. The nostrils or blow-holes are two longitudinal fissures, the anterior points nearly touching, but diverging posteriorly to a distance of three inches, and separated by a furrow. The opening of the eye six inches in length, from canthus to angle; the bony socket from anterior to posterior margin is eight inches; eyeball seven inches; the pupil oval; the irides hazel. There was not the slightest appearance of eyelashes, which some authors state whales possess.

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The distance from the end of the under jaw to the origin of the pectoral fin ten feet nine inches; the length of the fin five feet six inches; the breadth eighteen inches. The dorsal fin small, of cartilage only, conical, the basal length eighteen inches, the elevation twelve inches; placed eleven feet in advance of the tail.

The subcutaneous layer of fat varied in thickness from three to five inches.

The figure at the bottom of page 521 in Mr. Bell's History of British Mammalia and Cetacea, was referred to as a very good representation.

The dimensions of the skeleton are as follows:—

Whole length 40 feet.

Head 10 —

The vertebræ are sixty in number; viz. seven cervical, fifteen dorsal, sixteen lumbar, fifteen caudal, and seven caudal bones. Of ribs there are fourteen, the first of which is double-headed, and is attached to the two first dorsal vertebræ; each of the other ribs is attached to a single vertebra, and has a single head; the dorsal vertebræ, therefore, exceed the ribs in number by one.

The rest of the details of the bony fabric, as regards the pectoral fins, &c., correspond precisely with Dewhurst's plate and description of the Ostend specimen, allowing of course for the inferior size of the present animal.

Mr. Yarrell exhibited, at the request of G. T. Fox, Esq., of Durham, a specimen of a beautiful spiny Lizard, from Texas,—the *Agama cornuta* of Harlan, *Phrynosoma Bufonium* and *Phrynocephalus Bufonius* of other modern authors. The specimen on which Dr. Harlan drew up his description was from the west of the Rocky Mountain Range.

A paper was then read, by Mr. Blyth, entitled "A Summary Monograph of the species of the genus *Ovis*," in which the author recognized nine species, besides indicating others as more or less doubtful.

The Argalis of Asia and America were provisionally considered as the same, under the appellation of *Ovis ammon*, as also the Kamtschatka sheep of M. Eschscholtz, which Mr. Blyth suspected to be only an individual slight variety; and accordingly, he traced the geographic range of this animal from Asia through Kamtschatka and the Aleutian Isles to the Rocky Mountains of North America, and southward upon that continent to California, where there was reason to believe it occurred, together with the true Californian species described by Mr. Douglas. In Asia he followed it southward to the Himalayas, but suspected that the *Ovis ammon* mentioned by different authors as inhabiting the Caucasus and Taurus, referred to a distinct species which he had to describe. The *Ovis Californiana* was next noticed; and then a superb new species, believed to be from Mount Taurus, the horns of which were suggested to bear every appearance of having supplied the model which ancient sculptors followed in their representations of Jupiter Ammon, and which therefore it

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was proposed to designate *O. sculptorum*. Mr. Blyth then proceeded to distinguish two Himalayan species, which presented a somewhat different form of horn from the rest of the genus; one, the *Ovis Nahoora*, Hodgson, of superior size, and general pale colour, which he believed did not inhabit so high; the other he termed *O. Burrhel*, which was of a very dark colour, and presented numerous other specific distinctions, being an inhabitant also of more elevated regions. The *Ovis aries* he considered a species *per se*, and not descended from the Moufflon; and the *O. musimon* was treated of in detail under its two alleged varieties, specimens of which, however, had never been compared together. The *Ixalus probaton*, Ogilby, was deemed to belong strictly to the genus *Ovis*, and Mr. Blyth suggested, that as the abnormal growth of its hoof indicated that it had long lived in captivity, it was not unlikely that castration at an early age may have obstructed the development of its horns, the rudiments of which exactly resembled those found upon many breeds of true sheep, and upon the lambs of all horned breeds of a certain age. The last animal included was the *Ovis tragelaphus*, Auctorum, of which the *O. ornata*, Geoffroy, appeared to be merely a dwarfish individual: the characters of this species were treated of at considerable length, and it was proposed to elevate it to the rank of a sub-genus of *Ovis*, for which the name *Ammotragus* was suggested. The paper was illustrated by numerous elaborate drawings of the horns, &c., and by a pictorial group, containing the principal species, the relative sizes of which were thus rendered obvious to the eye.

February 25, 1840.—Prof. Rymer Jones, in the Chair.

Mr. Ogilby drew attention to a prepared specimen and skull of a Gibbon, which had recently died at the Society's menagerie. The precise locality from which this animal was procured had not been ascertained; it was presented by John Abel Smith, Esq., and after living some months in the menagerie, fell a victim to the same complaint which carried off so many of the *Quadrumana* during the past winter.

The whole body is of an uniform deep black colour, except the throat and cheeks, which are covered with long white hair, forming a broad band which extends from ear to ear. This circumstance induced Mr. Ogilby to propose the name of *Hyllobates leucogenys*, for this species. There is no white mark over the eyes, as in the *Hoolock*, and the chin and under jaw are black, like the rest of the body. The head is remarkable for its pyramidal elevation, as contrasted with the flattened form of the same part in the *Hoolock*. Mr. Ogilby stated, that the only doubt he had with respect to the specific distinction of this animal, is the probability of its being the male of that described by Dr. Harlan under the name of *H. niger*. The hair of the forehead and head in general is directed backwards, towards the neck: that on the crown of the head is very long, and gives to the head that pyramidal or conical form before mentioned.

The skeleton and dentition show it to have been a young animal; the permanent teeth had not yet protruded from the alveoli. The

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The whole body is of an uniform deep black colour, except the throat and cheeks, which are covered with long white hair, forming a broad band which extends from ear to ear. This circumstance induced Mr. Ogilby to propose the name of *Hylobates leucogenys*, for this species. There is no white mark over the eyes, as in the Hoolock, and the chin and under jaw are black, like the rest of the body. The head is remarkable for its pyramidal elevation, as contrasted with the flattened form of the same part in the Hoolock. Mr. Ogilby stated, that the only doubt he had with respect to the specific distinction of this animal, is the probability of its being the male of that described by Dr. Harlan under the name of *H. niger*. The hair of the forehead and head in general is directed backwards, towards the neck: that on the crown of the head is very long, and gives to the head that pyramidal or conical form before mentioned.

The skeleton and dentition show it to have been a young animal; the permanent teeth had not yet protruded from the alveoli. The

total length of the skull (from the intermaxillaries to the occiput) is 4 inches; its greatest width is 2 inches $7\frac{2}{3}$ lines; width between the outer boundaries of the orbits, 2 inches; from base of nasal bones to apex of intermaxillaries, 1 inch $1\frac{2}{3}$ line. The length of the humerus is 7 inches 2 lines; of the ulna, 8 inches; radius, 7 inches 7 lines; femur, 6 inches; tibia, 5 inches 3 lines; fibula, 5 inches 1 line.

The principal external characters of this animal may be thus expressed:—

HYLOBATES LEUCOGENYS. *Hyl. niger*; *pilis ad latera faciei et ad gulam albis*; *pilis verticis longis et semi-erectis*.

Mr. Waterhouse exhibited a new species of Squirrel from the Society's collection, and pointed out its distinguishing characters, which are as follows:—

SCIURUS DIMIDIATUS. *Sci. suprâ griseus fulvo lavatus, subtùs flavus*; *capite, corpore ad latera pedibusque rufescentibus*; *caudâ ferè corporis longitudinem æquante, indutâ pilis nigris, flavis atque fulvis commixtis*.

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin	10	0
———— caudæ, ferè	7	6
———— ab apice rostri ad basin auris	1	11
———— <i>tarsi digitorumque</i>	2	3
———— <i>auris</i>	0	8

Hab. South America?

This curiously-coloured species of Squirrel was purchased at a sale, and in the same lot were specimens of *Sciurus æstuans* and *Sc. Langsdorffii*, well-known South American species; it is probable, therefore, it may be an inhabitant of the same country. Its fur is very short for a Squirrel, rather harsh, and less loose than in the generality of Squirrels: the back is gray, or what might be termed an iron-gray, having a rusty hue; on the upper part of the head the rust-like tint prevails, and the muzzle is almost entirely of a rich rust colour; the sides of the head and neck are of a golden-yellow tint, and the under parts of the body are yellow: a bright rust-coloured line runs along each side of the body, and separates the yellow colouring of the under parts from the iron-gray of the upper: on the outer sides of the limbs, and on the feet, a rich deep golden-yellow hue prevails. The tail is apparently cylindrical, and not bushy; the prevailing hue of the hairs is deep rust colour, but they are for the most part more or less broadly annulated with black in the middle. The ears are slightly pointed, and well clothed with golden-yellow hairs; those on the outer side are of a bright rust colour; they have no pencil of hairs at the tip. The hairs of the moustaches are numerous, long, and of a black colour. The incisors of both upper and under jaws are deep orange.

Mr. Fraser read his descriptions of, and observations upon, some new species of Insectorial Birds, belonging to the genus *Agrilorhinus*.

“In the northern parts of South America and in Mexico,” Mr. Fraser observed, “are certain small birds, resembling the Warblers

total length of the skull (from the intermaxillaries to the occiput) is 4 inches; its greatest width is 2 inches $7\frac{2}{3}$ lines; width between the outer boundaries of the orbits, 2 inches; from base of nasal bones to apex of intermaxillaries, 1 inch $1\frac{2}{3}$ line. The length of the humerus is 7 inches 2 lines; of the ulna, 8 inches; radius, 7 inches 7 lines; femur, 6 inches; tibia, 5 inches 3 lines; fibula, 5 inches 1 line.

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in size, and in having a slender beak; they differ, however, in having the beak stronger and compressed; the upper mandible straight, or even slightly recurved; its apical portion strongly hooked, and distinctly notched; its cutting edges are curved inwards, so as to inclose the corresponding edges of the under mandible. But the most remarkable character consists in the existence of three or four small notches in the edge of the upper mandible, on either side, and behind the ordinary notch which characterizes the *Dentirostres*.

“The Prince of Musignano first noticed these peculiarities in a bird from Mexico, and described them in the ‘Nuovi Annali delle Scienze Naturali,’ where he used the name *Agrilorhinus* to distinguish generically the bird in question.

“I have now the honour of laying before the meeting four new species of this interesting genus; three from a collection belonging to the Earl of Derby, which I am informed was made at S^{ta} Fé de Bogota, and one from the Society’s museum, the precise habitat of which is not known; there are reasons, however, for believing it to be a Mexican bird.

“The Prince of Musignano is of opinion that the genus *Agrilorhinus* has affinities both with the *Sittinæ* and *Sylvicolinæ*. The strong notch in the upper mandible, its distinctly curved point, and the compressed form of the beak, combined with the well-developed *vibrissæ*, lead me to believe that this genus ought rather to be regarded as a somewhat aberrant form of *Laniadæ*.

AGRILORHINUS BONAPARTEI. *Agr. in toto niger, humeris exceptis, his cærulescenti-cinereis.*

Long. tot. $6\frac{5}{8}$ unc.; rostri, $\frac{3}{4}$; alæ, 3; caudæ, 3; tarsi, $\frac{7}{8}$.

Hab. S^{ta} Fé de Bogota.

AGRILORHINUS HUMERALIS. *Agr. in toto niger, humeris exceptis, his cærulescenti-cinereis.*

Long. tot. 5 unc.; rostri, 7 lin.; alæ, $2\frac{3}{4}$; caudæ, $2\frac{1}{4}$; tarsi, $\frac{7}{8}$.

Hab. S^{ta} Fé de Bogota.

This bird only differs from the preceding species in its smaller size.

AGRILORHINUS OLIVACEUS. *Agr. olivaceus, corpore subtùs pallidiorè, et flavido tincto.*

Long. tot. 4 unc.; rostri, $\frac{1}{2}$; alæ, 2; caudæ, 2; tarsi, $\frac{5}{8}$.

Hab. Mexico?

This specimen is probably a female.

AGRILORHINUS PERSONATUS. *Agr. cæruleus; fronte, spatio circa oculos, rostro pedibusque nigris; remigibus rectricibusque internè nigrescentibus.*

Fœm. plumbea.

♂ Long. tot. $6\frac{1}{2}$ unc.; rostri, $\frac{3}{4}$; alæ, 3; caudæ, $2\frac{3}{4}$; tarsi, $\frac{3}{4}$.

♀ ————— $5\frac{3}{4}$ —; —, $\frac{5}{8}$; —, $2\frac{5}{8}$; —, $2\frac{3}{8}$; —, $\frac{3}{4}$.

Hab. S^{ta} Fé de Bogota.

“This bird is about the size of the Blue Bird (*Sialia Wilsoni*) of North America; its blue colouring is much darker, and less brilliant. The bill is strong, long, and compressed, and suddenly bent down—
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in size, and in having a slender beak; they differ, however, in having the beak stronger and compressed; the upper mandible straight, or even slightly recurved; its apical portion strongly hooked, and distinctly notched; its cutting edges are curved inwards, so as to inclose the corresponding edges of the under mandible. But the most remarkable character consists in the existence of three or four small notches in the edge of the upper mandible, on either side, and behind the ordinary notch which characterizes the *Dentirostres*.

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Long. tot. 5 unc.; rostri, 7 lin.; alæ, $2\frac{3}{4}$; caudæ, $2\frac{1}{4}$; tarsi, $\frac{7}{8}$.

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This bird only differs from the preceding species in its smaller size.

AGRILORHINUS OLIVACEUS. *Agr. olivaceus, corpore subtùs pallidiorè, et flavido tincto.*

Long. tot. 4 unc.; rostri, $\frac{1}{2}$; alæ, 2; caudæ, 2; tarsi, $\frac{5}{8}$.

Hab. Mexico?

This specimen is probably a female.

AGRILORHINUS PERSONATUS. *Agr. cæruleus; fronte, spatio circa oculos, rostro pedibusque nigris; remigibus rectricibusque internè nigrescentibus.*

Fœm. plumbea.

♂ Long. tot. $6\frac{1}{2}$ unc.; rostri, $\frac{3}{4}$; alæ, 3; caudæ, $2\frac{3}{4}$; tarsi, $\frac{3}{4}$.

♀ ————— $5\frac{3}{4}$ —; —, $\frac{5}{8}$; —, $2\frac{5}{8}$; —, $2\frac{3}{8}$; —, $\frac{3}{4}$.

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Ann. & Mag. N. Hist. Vol. vi. Dec. 1840. x

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Long. tot. 4 unc.; rostri, $\frac{1}{2}$; alæ, 2; caudæ, 2; tarsi, $\frac{5}{8}$.

Hab. Mexico?

This specimen is probably a female.

AGRILORHINUS PERSONATUS. *Agr. cæruleus; fronte, spatio circa oculos, rostro pedibusque nigris; remigibus rectricibusque internè nigrescentibus.*

Fœm. plumbea.

♂ Long. tot. $6\frac{1}{2}$ unc.; rostri, $\frac{3}{4}$; alæ, 3; caudæ, $2\frac{3}{4}$; tarsi, $\frac{3}{4}$.

♀ ————— $5\frac{3}{4}$ —; —, $\frac{5}{8}$; —, $2\frac{5}{8}$; —, $2\frac{3}{8}$; —, $\frac{3}{4}$.

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Ann. & Mag. N. Hist. Vol. vi. Dec. 1840. x

wards at the apex; the lower edge of the upper mandible is curved inwards and encloses the cutting edges of the lower one, but it is not notched as in the more typical species of *Agrilorhinus*. The forehead, a broad space around the eye, and the ear-coverts, are black: the chin is blackish. The feathers of the wing are blackish, but externally edged with blue; and so are the tail-feathers."

March 10, 1840.—Professor Owen in the Chair.

A paper by Dr. Richardson, on a collection of Fishes, was read:

The proceedings of the Society for June 25, 1839, contain the first part of the description of this collection, which was made at Port Arthur in Van Diemen's Land, by Deputy-Assistant-Commissary-General Lemprière, pursuant to the directions of His Excellency Sir John Franklin, K.C.B. &c., Lieutenant-Governor of the colony. The subject is resumed in this paper, and the author describes a *Dajao*, which differs from the three known mullets of Australia in many particulars, and from all the *Mugiloideæ* described in the *Histoire des Poissons*, in the greater number of rays of the anal fin, as well as in the combinations of other characters. The only *Dajao* mentioned in the work referred to, is an inhabitant of the mountain streams of the Caribbee Islands; while the Van Diemen's Land one has been found only in the sea; but perhaps both are anadromous. The rough plates on the palate and vomer of some acknowledged typical mullets assimilate their dentition greatly to that of the *Dajaos*; and the present species approaches the ordinary mullets in the form of the orifice of the mouth, while its palatine and vomerine teeth are nearly as large as those on the jaws. It is prized as an article of food.

DAJAUS DIEMENSIS (Richardson). *Tasmanian Dajao*.

Dajaus, rostro ferè truncato, vix prominente.

Radii:—Br. 6—6; P. 15; D. 4—1 | 9; A. 3 | 12; V. 1 | 5; C. 14 $\frac{1}{2}$.

The author next remarks that of four *Labri* in the collection, two species, comparatively little ornamented, are furnished with six gill rays, while the other two, more gaily coloured, and one of them indeed brilliantly striped, have only five rays in the branchiostegous membrane. They are all true labri, but the scales which protect their opercula, though in fact much larger than those of *Labrus bergylla*, are so deeply imbedded in mucous skin, that in a recent state these fish might pass for examples of the genus *Tautoga*, which they further resemble in possessing a tolerably regular inner row of minute teeth. They are without scales on the interoperculum, and the small scales on their cheeks being variously distributed, furnish specific characters. All four have canine teeth at the corners of the mouth, and, contrary to the prevailing character of the *Labri*, the soft rays of the dorsal exceed the spinous ones in number, resembling in this respect the *Labrus pæcilopleura* of New Zealand.

LABRUS TETRICUS. *Lab., squamis minutis in ordinibus duobus ad marginem anteriorem preoperculi instructis; operculo squamis majoribus in seriebus ternis quaternisve dispositis tecto.*

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The author next remarks that of four *Labri* in the collection, two species, comparatively little ornamented, are furnished with six gill rays, while the other two, more gaily coloured, and one of them indeed brilliantly striped, have only five rays in the branchiostegous membrane. They are all true labri, but the scales which protect their opercula, though in fact much larger than those of *Labrus bergylla*, are so deeply imbedded in mucous skin, that in a recent state these fish might pass for examples of the genus *Tautoga*, which they further resemble in possessing a tolerably regular inner row of minute teeth. They are without scales on the interoperculum, and the small scales on their cheeks being variously distributed, furnish specific characters. All four have canine teeth at the corners of the mouth, and, contrary to the prevailing character of the *Labri*, the soft rays of the dorsal exceed the spinous ones in number, resembling in this respect the *Labrus pæcilopleura* of New Zealand.

LABRUS TETRICUS. *Lab., squamis minutis in ordinibus duobus ad marginem anteriorem preoperculi instructis; operculo squamis majoribus in seriebus ternis quaternisve dispositis tecto.*

Radii:—B. 6—6; P. 13; D. 9 | 11; V. 1 | 5; A. 3 | 10; C. 14.

LABRUS FUCICOLA. *Lab., squamis parvis inter oculum et præoperculum in seriebus quatuor instructis; squamis opercularibus majusculis.*

Radii:—B. 6—6; P. 13; D. 9 | 11; V. 1 | 5; A. 3 | 10. C. 14.

LABRUS PSITTACULUS. *Lab., squamis genæ in ordinibus quatuor præoperculo approximatis, oculoque remotiusculis; corpore ovali; pinna caudæ supernè apiculatâ.*

Radii:—B. 5—5; P. 13; D. 9 | 11; V. 1 | 5; A. 3 | 10; C. 14.

LABRUS LATICLAVIUS. *Lab., smaragdinus, fasciis puniceis purpureo marginatis, binis lateralibus posticè in unam coalescentibus inque pinna caudæ productis; pinna dorsi basi viridi: in mediâ latè purpureâ: supernè aurantiacâ, purpureo guttatâ, inque margine extremo cæruleâ; pinna ani basi aurantiacâ, dein primulaceo-flavâ cæruleo cinctâ, exinde purpureâ cæruleis guttis, denique in margine extremo cæruleâ*.*

Radii:—Br. 5—5; P. 12; V. 1 | 5; D. 9 | 11; A. 3 | 10; C. 14.

Then follows the description of a small *Odax*, known at Port Arthur by the name of "Kelp fish." It agrees with *Odax semifuscatus* of the *Histoire des Poissons* in many of its details, but on a minute comparison with the description of that species it appears to be distinct.

ODAX ALGENSIS. *Od. capite longiusculo; præoperculo denticulato; facie utrinque sex-striatâ.*

Radii:—Br. 5—5; P. 14; D. 17 | 12; A. 2 | 12; V. 1 | 4.
C. 12 $\frac{2}{3}$.

Another species of kelp-fish common at Port Arthur, and of which a specimen was sent by Mr. Lemprière, but too much decayed for identification, is described by that gentleman as being marked with a dark stripe. It is probably the *Odax balteatus* of the *Histoire des Poissons* which was discovered by Peron.

The author then describes a new scaroid fish which did not form part of Mr. Lemprière's collection, but which there is reason to believe was taken either at Hobart Town or Sydney. It was presented to the Museum of Haslar by Mr. Conway, formerly medical superintendent of a convict ship, and since deceased. The specimen being a mounted one, no details of internal structure can be given, and in so far the characters of the genus or sub-genus are incomplete; but it differs from the ordinary *Labri* in the scaliness of the vertical fins, and from *Scarus* in external aspect, the form of the fins, the smallness of the scales, especially at the base of the caudal fin, and in the manner in which the lips cover and move with the jaws. It differs from *Odax* in the teeth and ventral fins.

OPLEGNATHUS, *genus novum.*

Corpus ellipticum, crassum, squamis parvis oblongis tectum. *Mandibulæ* modo *Scarorum* dentes incorporatos gerentes. *Labium*

* The character of this species being rendered obscure in the abstract of the former paper by the omission of a word in printing, is here repeated.

Radii:—B. 6—6; P. 13; D. 9 | 11; V. 1 | 5; A. 3 | 10; C. 14.

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superius basi profundè sulcatum, intermaxillas ferè tegens, et cum illis movens. *Operculum* osseum altè sinuatum, hinc bilobatum, cum genâ squamis parvis tectum. *Dorsum* monopterygium. *Costæ* branchiostegæ quinque. *Pinnæ* ventrales ponè pectorales sitæ, radiis quinque ramosis et uno aculeato sustentatæ. *Radii* aculeati pinnarum dorsi anique fortes. *Fasciæ* squamosæ inter radios articulatos pinnarum verticalium decurrentes.

OP. CONWAI, *species unica cognita.*

Radii:—Br. 5—5; P. 18; V. 1 | 5; D. 12 | 12; A. 3 | 12; C. 15 $\frac{4}{5}$.

In Mr. Lemprière's collection there are three specimens of *Ostracion* which the author considers as examples of the *Auritus* of Shaw, of different ages, and one which he characterizes as a new species, also belonging to Mr. Gray's sub-genus *Aracana*. They are known at Port Arthur by the name of "Pig-fish."

OSTRACION SPILOGASTER. *Ostr. (Aracana), ventre maculato; lateribus dorsoque fasciis interruptis ornatis, quarum quatuor sub oculo numerandis, tribus in basibus pinnarum dorsi anique et tribus propè finem pinnae caudæ anastomosantibus.*

Radii:—P. 11; D. 11; A. 11; C. 11.

The three following species are also from Van Diemen's Land, though not now characterized for the first time.

OSTRACION AURITUS (Shaw). *Ostr. (Aracana), ventre pallenti unicolore; lateribus dorsoque lineis saturatis rectis curvisque ornatis, quarum quinque sub oculo numerandis, et tribus in propriis basibus pinnarum dorsi, ani, caudæque.*

Radii:—P. 11; D. 11; A. 11; C. 11.

OSTRACION FLAVIGASTER (Gray). *Ostr. (Aracana), ventre pallido unicolore, lateribus dorsoque lineis saturatis percursis, quarum octo sub oculo numerandis, totidemque lineis pallidis interjacentibus; in basi pinnae caudæ lineis quinque pallidis et tribus in basibus pinnarum dorsi caudæque.*

OSTRACION ORNATUS (Gray). *Ostr. (Aracana), lateribus dorsoque albo tessellatis; facie ventreeque lineis purpureis, fuscis, et albidis numerosis, percursis; fasciis sex obscuris in pinna caudæ, sub finem anastomosantibus.*

MONACANTHUS RUDIS. (Nob.) *Grey Monacanthus. Mon. (nec paleari extensivo, nec caudâ setosâ, nec corpore papilloso vel penicelligero præditus; retro-scaber; colore (murino?) immaculato; rostro mediocri; dentibus latis in serie duplici dispositis, decem superioribus sex inferioribus; aculeo dorsali subulato, spinifero; pinna caudæ rotundatâ.*

Radii:—P. 14. D. 2 | 35; A. 34; C. 12.

This *Monacanthus* known at Port Arthur (as well as the *Aleuterus* described below,) by the name of "Leather Jacket," attains the length of a foot or more, and is considered to be a good fish for the table, the skin being removed before it is cooked. After long maceration in spirits it has a dull greyish-brown hue, without any traces of spots or other configurations of colour, and the species also

superius basi profundè sulcatum, intermaxillas ferè tegens, et cum illis movens. *Operculum* osseum altè sinuatum, hinc bilobatum, cum genâ squamis parvis tectum. *Dorsum* monopterygium. *Costæ* branchiostegæ quinque. *Pinnæ* ventrales ponè pectorales sitæ, radiis quinque ramosis et uno aculeato sustentatæ. *Radii* aculeati pinnarum dorsi anique fortes. *Fasciæ* squamosæ inter radios articulatos pinnarum verticalium decurrentes.

OP. CONWAI, *species unica cognita.*

Radii:—Br. 5—5; P. 18; V. 1 | 5; D. 12 | 12; A. 3 | 12; C. 15 $\frac{1}{4}$.

In Mr. Lemprière's collection there are three specimens of *Ostracion* which the author considers as examples of the *Auritus* of Shaw, of different ages, and one which he characterizes as a new species, also belonging to Mr. Gray's sub-genus *Aracana*. They are known at Port Arthur by the name of "Pig-fish."

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Radii:—P. 11; D. 11; A. 11; C. 11.

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Radii:—P. 11; D. 11; A. 11; C. 11.

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wants the extensible dewlap, the bristly tail, pedunculated warts or branching cirri, which characterize other groups of *Monacanthi*.

ALEUTERES MACULOSUS (Nob.). *Speckled Leather Jacket*. *Al. retro-scaber, sub-ovalis, ventre prominulo; angulis quatuor aculei dorsalis spiniferis; pinnâ caudâ rotundatâ, sub finem nigro fasciatâ; corpore colore murino? nebuloso-guttato.*

Radii:—P. 11, aut 12; D. 2—34; A. 32; C. 12.

This is a small *Aleuter*, seldom exceeding five inches in length, and having a sub-oval form, the back being less arched than the belly. The dorsal and anal fins are arched, the curvature being more abrupt anteriorly. The dorsal spine is four-sided, with rows of prickles pointing downwards on each of the angles. The minute second spine is very slender. As has been remarked by Salvian, this small spine aids like a trigger in fixing the large one in any required position. The colour of the fish after being kept in spirits is dull olive-brown or mouse-colour, with scattered clusters of small dark spots. The subterminal black band on the caudal fin is very faint.

ALEUTERES PARAGAUDATUS (Nob.). *Trim Leather Jacket*. *Al., retro-scaber; dorso depresso ex ore usque ad pinnam secundam ferè recto; ventre regulariter arcuato; pinnâ caudâ rotundatâ, sub finem nigro-fasciatâ; colore corporis murino; fasciâ pallidâ (flavâ) è mento per pinnam pectoralem medio in latere tractâ, sub quâ lined cæruleâ; lined alterâ cæruleâ è mento per oculum et ultra extensâ; corpore subtùs et posticè cæruleis guttis pulchrè interstincto.*

Radii:—P. 12; D. 2—34; A. 32; C. 12.

This handsome *Aleuter* is named in allusion to the striped upper vestments of the Roman ladies. Like the preceding, it is a small-sized fish. One of our specimens had the gut and the whole abdomen distended by a large *Idotea*, full of roe, not at all crushed, and apparently little digested: a portion of its tail fin protruded at the anus of the *Aleuter*.

The *Aleuter* *Ayraud* of Shark Bay (Quoy et Gaimard) differs from this and the preceding species in the dorsal spine having only two rows of prickles, and in the dorsal fin having a concave outline, and reaching to the caudal fin. It is also differently striped, and no spots are mentioned. The *Aleuter* *spilomelanurus* taken by the same naturalists at Port Jackson resembles the Port Arthur fish in the form of the dorsal spine and shape of the three vertical fins, but the numbers of the rays in the dorsal and anal are different; there are no spots on the body, and merely a single dark line extending from the angle of the mouth along the higher part of the sides. In both the Port Arthur *Aleuter* the minute prickles of the skin, when examined by a good microscope, appear to be solitary, and to spring from a globular base.

CALLORHYNCHUS TASMANIUS (Nob.). *Tasmanian Callorhynchus*. *Call., pinnis pectoralibus ad ventrales haud attingentibus; pinnâ dorsi secundâ pone ventrales incipienti, ante lobum anteriorem inferiorem pinnæ caudæ desinenti.*

This species agrees with the *Callorhynchus Smythi* of Benne

wants the extensible dewlap, the bristly tail, pedunculated warts or branching cirri, which characterize other groups of *Monacanthi*.

ALEUTERES MACULOSUS (Nob.). *Speckled Leather Jacket*. *Al. retro-scaber, sub-ovalis, ventre prominulo; angulis quatuor aculei dorsalis spiniferis; pinnâ caudâ rotundatâ, sub finem nigro fasciatâ; corpore colore murino? nebuloso-guttato.*

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This species agrees with the *Callorhynchus Smythi* of Benne

figured in Beechey's Zoological Appendix, in the distance between the pectorals and ventrals, but is so unlike that figure in other respects that it is impossible to assign it to that species. *Call. Antarcticus* has large pectorals whose tips overlie the base of the ventrals.

NARCINE TASMANIENSIS, (Nob.). *Tasmanian Narcine*.

This species has not yet been compared with *Narcine capensis*, but it is most probably distinct. A full description is given in the paper, to enable authors who have the opportunity of seeing figures or recent specimens of *Narcine capensis*, to point out the differences. It is named "Ground Shark" at Port Arthur and Hobart Town.

SYNGNATHUS ARGUS (Nob.). *Ocellated Pipe-Fish*. *Syng., depressus, latus, pinnis pectoralibus dorsique præditus; ventralibus caudæque orbatis; dorso maculis aculeis ornato; maculis albis und serie in margine ventris dispositis.*

This very handsome pipe-fish differs from all the groups of species indicated in the Règne Animal, in having pectoral fins, while the caudal and ventrals are wanting. It did not form part of Mr. Lemprière's collection, but is said to have been presented to the Haslar Museum by the surgeon of a convict ship; its exact habitat being unknown.

It was mentioned in the former paper that labels of many of the specimens were detached, so that correct references could not be made to Mr. Lemprière's list. In this predicament is the 'Saw-fish' or 'Bugler,' which attains the weight of sixteen pounds, but the example sent was below the usual size. Also one of the 'Parrot Fish,' known locally as the 'Blue-head.' The *Thyrsites altivelis* is named the 'Baracoota,' and Mr. Lemprière says that there is a second species taken at Port Arthur, which has much lower dorsal spines, but is more esteemed as an article of diet. This is probably the *Thyrsites atun* of the *Histoire des Poissons*. The most choice fish in the colony is called the 'Trumpeter,' and weighs, when full-sized, eight or nine pounds. A single specimen of this was sent, and is doubtless described in this or the former part of the paper.

There are also in the collection several specimens of a *Hemiramphus*, which is known locally by the name of 'Guard Fish.' They are only half the full size, which is said to be fifteen inches. Several specimens of a Diodon have all the characters ascribed to *D. nycthemerus* in Cuvier's monograph (*Mem. du Mus.*, iv.). Two species of Hippocampi are probably those described by White and Shaw as inhabitants of Port Jackson. A 'Rock Cod' taken in the sea was too much decayed for examination, the skull being all that could be preserved; and several examples of a small freshwater fish were also very much injured. The species bears the local name of 'Trout,' is said to have an olive colour, with small red spots, and to weigh when full-grown about nine ounces. It is perhaps the *Galaxias truttaceus* of Cuvier, or an allied species. A 'Sea Cow' mentioned in the list may be the *Callorhynchus Tasmanius*. A *Solea* of a sub-orbicular form, and having a small square spot on each scale, and a freshwater *Anguilla*, remain undescribed.

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MICROSCOPICAL SOCIETY OF LONDON.

Oct. 21, 1840.—Richard Owen, Esq., President, in the Chair.

A communication from the Rev. C. G. Vernon Harcourt to Mr. Owen was read, in which the author relates his observations made upon some microscopic animalcules found in a pond at Nuneham.

The author's attention was attracted to the subject by observing the brilliant masses of red which appeared in the pond in the morning, and seemed to disappear in the evening. Portions of this were collected and submitted to the microscope. It was found to consist of a number of small particles adhering together so as to form a continuous film, which floated upon the surface of the water in the glass in which it was kept, but after a few hours resolved itself into its component particles, which sunk to the bottom.

When the films were observed in the pond they were found to be of a green colour until six o'clock in the morning, at which hour they begin to change from green to red. The red colour continues until four o'clock in the afternoon, at which hour the films, after passing through shades of brownish purple, again return to the green state, and so continue until the following morning, when the same phenomena are repeated.

It was found very difficult to keep the animals in their green state, and the only good opportunity of examining them in that condition was found to be by the side of the pond. When carried home in a wine-glass they quickly became red. Some, however, were collected, with great care not to disturb them, in a wash-hand basin, which was left in the open air. The films remained united and went through their regular changes for three days, after which the creatures fell to the bottom, remained red, and appeared dead.

The change of colour from green to red, and *vice versa*, appears to depend on certain alterations taking place in the interior of the animal. Although the mass of united animals looks green, yet there may always be discovered with the microscope, in each individual, a red spot, which when the mass becomes red dilates, the animal being stretched out at full length, with the mouth and vent open. The green colour is reproduced by the red interior contracting towards a vent near the tail. The process by which these changes are effected was repeatedly observed.

The animals were never observed to feed, nor was anything ejected from the vent. They are very sluggish, and when separated were never seen to reunite. In a cloudy morning they are of a purplish brown colour, the dilatation of the red interior not being completed, and when it rains they sink to the bottom.

The author refers to the figure in Shaw's Miscellany of *Cercaria mutabilis* (*mutabilis*, from change of shape, not of colour) as furnishing a correct representation of most of the appearances which the animalcule assumes in its red state, and offers some conjectures as to the possibility of Shaw having mistaken the different appearance of the animal at different times as indicative of a difference in species.

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The colour, he observes, does not depend altogether upon light and heat, as in that case it would probably change earlier than six o'clock in the morning in the middle of summer, and at all events would not return to the green state as soon as four o'clock; neither would it, upon being disturbed, resume the red colour in the dark. The green colour could not be preserved by sudden emersion in spirits of wine, which dissolved out the red colour and gave a brown solution.

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A paper was read by Mr. Bowerbank, "On a new variety of Vascular Tissue found in a Fossil Wood from the London Clay."

The singular variety of vessel, which is the subject of this paper, occurs in a fossil dicotyledonous wood from the London clay of Herne Bay, in Kent. The texture of the mass is very similar to Bovey coal, but more carbonaceous. It is in the possession of Mr. Samuel the lapidary.

With a low power the wood bears a close resemblance to the structure of beech. A thin section, when viewed as a transparent object with a power of 100 linear, exhibits numerous large vessels, the greater part of which are of that variety of annular vessel which has the annulations very much interrupted, and divided into numerous portions of various sizes.

Occasionally large vessels are seen thickly covered with minute dots having a dark line passing through the centre of each at right angles to the axis of the vessel. The true nature of this singular appendage is best seen by a power of 800 or 1000 linear, which exhibits the transverse line as consisting of two lines, separated from each other at their centres, but united together at either extremity. In most cases these lines do not extend over the surface of more than one dot, and their united ends project slightly beyond its margin; but a few instances may be seen of their extending over two, three, and even four dots, and then the lines are observed to expand to the greatest degree over the centre of each of the dots, and to approach each other slightly in the spaces between them. An almost precisely similar structure had been pointed to the author by Mr. Edwin Quekett in the recent wood of *Piper nigrum*.

Another remarkable appearance observed in the same fossil wood, consists in certain of the vessels being occupied by numerous vesicular globules, which appeared to have been freely floating within their parietes. When not in contact with each other they are perfectly spherical and uncompressed, and in some cases are so numerous as to fill nearly the whole diameter of the vessel. These globules are very variable in size, and the author considers that the whole of them may be attributed to a more than ordinary development of globules of circulation analogous to that observed in *Valisneria* and other plants. No analogous structure to this is observable in the recent wood of *Piper*.

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